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EFFECTS OF REALISTIC VS. FICTIONAL TELEVISION VIOLENCE ON AGGRESSION

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The relative effectiveness of real news violence and fictional entertainment violence was assessed in an experiment with pre-adolescents. One group saw a brief fight scene portrayed as a news story in a simulated TV newscast, while a second group saw the same scene presented as a movie preview during a commercial break. The primary dependent variable was hypothetical situational aggressiveness, measured with self-report hierarchical response scales. The reality treatment produced significantly more aggression than the fantasy treatment; both types of violence significantly increased aggression above the baseline for the non-exposed control condition. Interaction analyses indicated that the perceived reality of the presentation was the key factor facilitating effects on aggression. The findings suggest that realistic televised violence is more disinhibiting than fictional violence, and that TV news programs have a distinct potential for producing aggressive behavior among young viewers.

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EFFECTS OF REALISTIC VS. FICTIONAL TELEVISION VIOLENCE ON AGGRESSION

An extensive body of empirical evidence demonstrates that television violence exposure contributes to increased levels of aggression among children and adolescents.¹ However, little is known about the contextual characteristics of violence portrayals that might modify the extent of impact on viewers. One important dimension suggested by many observers is the degree of perceived reality of violence presentations; they typically propose that more realistic forms of violent action will produce greater aggression.² The present study examines the relative effect of real news violence vs. fantasy entertainment violence on aggressive responses of pre-adolescents.

Although realistic TV violence is generally expected to be more influential, precise theoretical explanations of this process are seldom explicated, even by the primary researchers studying the problem such as Bandura, Berkowitz, and Feshbach. Perhaps the proposition is so intuitively appealing that a detailed rationale for differential impact of realistic and fictionalized violence is not considered necessary.

A variety of psychological mechanisms might explain the greater effectiveness of violence that reflects the real world. First, it must be recognized that reality or fantasy is not a property of the stimulus message, but is a perception on the part of the receiver. Two aspects of perceived reality can be distinguished: the degree to which the viewer perceives that the portrayed events, settings and characters (a) truly did or could exist in the real world (perceived actuality), and (b) are similar to the viewer's own contemporary social and physical environment (perceived similarity).

Perceived actuality is relevant to several theoretical perspectives, especially Bandura's (1971, 1973) observational modeling theory. He proposes that aggression is learned from the example of mediated models, primarily through imitation of new behavioral patterns and disinhibition of restraints governing display of non-sanctioned behaviors already existing in the viewer's repertoire. These outcomes are substantially influenced by attributes of the modeling stimuli; characters and actions perceived to represent real life should facilitate attention, retention, and motivation to perform. Realistic portrayals of vicariously reinforced behavior have greater instructional potential for performing various aggressive sequences under different circumstances, because the expected likelihood of actually achieving rewards or avoiding punishment can be more accurately assessed.

Bandura (1973) states that "the more remote the models are from reality, the weaker is the tendency for children to imitate their behavior." Fictional presentations may be interpreted by the viewer as a less reliable guide to aggressive techniques or appropriate norms, since drama need not faithfully reflect true-to-life motivations, actions, and consequences. In particular, disinhibitory effects are more likely to occur when the observer perceives that there are many real-life frustrations which justify expression of aggression, and that aggression really achieves desired goals without undesirable retaliation or penalties.

Arousal theories of TV violence effects suggest that aggressive stimuli emotionally excite viewers and instigate previously learned patterns of aggression (Berkowitz, 1962; Tannenbaum, 1972). Fictional presentations may be less emotionally arousing since viewers tend to "discount" the veracity of the portrayal; realistic presentations may attract more intense attention, involvement, and identification, and prolong the heightened state of excitement. In addition,

anti-social actions judged to be real may be perceived as more violent, resulting in stronger response to the message.

Perceived similarity works through somewhat different mechanisms. Since most viewers consider themselves and their environment to be real, realistic television portrayals will be perceived to have more elements of communality and similarity to the environment of audience members. This perception of similarity increases the likelihood of aggressive responses in several ways. Berkowitz (1962) proposes that the degree of cognitive association between the contextual cues in mediated violence episodes and the observer's own social context is a primary determinant of instigation to aggression. A televised aggressor or victim may remind the viewer of similar individuals in his social network. Bandura (1971) argues that perceived similarity leads to greater modeling influences because the observer expects that he will personally experience reinforcement outcomes analogous to those of similar models. In addition, violent actions similar to those within the observer's motoric capabilities should generate more aggressive behavior. Finally, stronger emotional arousal may result from viewing of perceptually similar stimuli, due to greater character identification and deeper involvement in the action.

Although Feshbach has been the leading proponent of the aggression catharsis theory, he distinguishes between outcomes of exposure to real and fictional stimuli. While proposing that most dramatic stories will drain off aggressive tendencies through vicarious fantasizing, he acknowledges "the possibility of facilitating aggression through such processes as imitation, instruction, and disinhibition" when content is perceived as real (Feshbach, 1972).

These various explanations suggest that realistic violence should have a more potent impact than fantasy violence. There is an increasing accumulation of research findings relevant to this prediction.

Survey evidence indicates that children differentiate varying degrees of realism in television presentation, and perceive that news violence is very real. Snow (1974) asked a small sample of pre-adolescents whether the behavioral content in several types of programming was violent or not. Violence in animated cartoons was described as violent by just one-fifth of the children; two-thirds felt that violence in adult westerns was violent. All judged Vietnam war newsfilm to be violent. Atkin (1971) surveyed the perceived reality of TV news violence in a sample of early adolescents. In response to the statement "Violence on news shows just doesn't seem real," three-fifths disagreed and one-sixth agreed, while the others expressed no opinion.

Two survey investigations of entertainment programming suggest that realism may be a key factor determining impact on aggressiveness. Greenberg (1974-75) found that British youngsters holding aggressive attitudes were somewhat more likely to perceive television content as real (e.g., "Shows on TV tell about life the way it really is"). Using similar measures of perceived reality with a sample of U.S. youth, McLeod, Atkin and Chaffee (1972) found moderate correlations with aggressive behavior.

Furthermore, both the British and American studies indicated that exposure to programs displaying greater manifest realism was more closely related to aggressiveness than viewing less real programs. In each case, watching Westerns was essentially uncorrelated with aggressive responses, while positive relationships were discovered for crime-adventure shows featuring contemporary settings and characterizations.

A number of experimental researchers have addressed the violence realism issue, using a variety of stimuli with samples ranging from pre-school to college age. The general finding is that violent scenes represented as really occurring have stronger effects on aggressive behavior than violence presented as fantasy or fiction.

In the pioneering Bobo doll research with preschool children, Bandura, Ross, and Ross (1963) found that a filmed human model produced more imitation of aggressive play than a "cartoon" version featuring a model dressed as a cat. The cartoon and human models were equally effective in disinhibiting aggression of a non-imitative nature, however.

Noble (1973) reported that early elementary school children played with toys more destructively after seeing a film depicting "realistic" violence (either guerilla fighting or soldier combat scenes from World War II movies), compared to children seeing "stylistic" violence (either battle scenes or witch burning from medieval period movies).

Feshbach (1972) conducted a pair of experiments to examine differential effects of reality vs. fantasy violence. In one experiment, pre-adolescents were exposed to films of either war fighting or campus rioting which varied in realism. For both types of violence, the real condition featured actual newsfilm while the fantasy condition presented motion picture scenes. The manipulations employed non-equivalent content (e.g., Vietnam war patrols, combat and bombing vs. a World War II machine gun battle). The experimental induction consisted of a verbal introduction ("You are going to see a newsreel..." or "Hollywood film").

Post-viewing responses were measured on an "aggression machine" that produced painfully loud noise. No significant differences were obtained, and the direction of results differed for the war and the riot scenes. It should be noted that a control group which viewed a "real" baseball game displayed the highest level of aggression.

The second Feshbach experiment tightened control by using identical violent content stimuli for each condition. The treatments varied only in the introductory "set", as students were told that a campus riot scene was either a newsreel or a

Hollywood movie. Delivery of aggressive noise was almost twice as strong in the reality set than fantasy set condition. A non-exposed control group scored midway between the two experimental groups. This same pattern of effects was obtained for different levels of age, socio-economic status, and sex. Basically, Feshbach concluded that the violence depicted as real increased aggression while the fantasy depiction reduced aggressive behavior.

Berkowitz and Alioto (1973) manipulated the context of World War II combat violence film footage with verbal introductions. When college males were told that the segment was an actual documentary, they gave shocks of greater duration and intensity than when it was described as a Hollywood movie enactment. This effect was more pronounced if the aggressive nature of the action was emphasized in a cross-cutting manipulation of the introductory set.

In a similar experiment by Thomas and Tell (1974), college males viewed a violent film segment presented as either a real or a fictional event, or saw no film. In the reality set condition, scene showing a fist fight arising from a minor traffic accident was described as an actual event filmed by a TV station. The same event was introduced as being staged in the fantasy set condition. Stronger shocks were delivered in the realistic treatment than in the fictional treatment, and the control group scored lowest.

In an experiment focusing on justified vs. unjustified violence effects, Meyer (1971) employed real newsfilm of a Vietnam war stabbing as stimulus material. He found that male college students delivered more frequent and intense shocks after hearing the news reporter describe the violent act as justified, compared to students hearing an unjustified description or those seeing a non-violent story about wild horse riding.

A second experiment by Meyer (1972) compared the impact of the Vietnam newsfilm with a similar stabbing scene from a Hollywood movie. Three different introductions were used for each version of violence: justified, unjustified, no explanation. He predicted that the justified fictional film violence would produce more aggression than the justified realistic version, arguing that the perception that the unpleasant stabbing actually occurred should inhibit aggressive impulses. There was no difference between the two versions of justified violence in either amount or intensity of shocks delivered, nor did the two unjustified versions differ. However, when the scenes were simply introduced as either a newsfilm or Hollywood movie, there were more shocks of greater intensity in the fictional treatment.

To summarize this laboratory research, the weight of the evidence indicates that realistic violence has a greater impact on aggression than fictional violence. In seven different experimental comparisons, there are five cases where the "reality" stimulus treatment produced significantly more aggressive responses than the "fantasy" treatment (Bandura et al., Noble, Feshbach II, Berkowitz and Alioto, and Thomas and Tell). One study showed no difference (Feshbach I) and another yielded the opposite result (Meyer II). An eighth experiment simply compared realistic newsfilm to a control group, showing significantly greater impact (Meyer I). In addition, five realism-fantasy experiments included a control group exposed to a non-violent film or no film; the control group displayed the lowest level of aggression in three cases (Bandura et al., Thomas and Tell, and Meyer II), no difference occurred in one instance (Feshbach I), and the control group fell between the reality and fantasy groups in one study (Feshbach II).

There are many shortcomings in this reality vs. fantasy violence literature, suggesting the need for additional research. Here are some of the major limitations:

(a) although the survey studies show that perceived reality is related to aggressiveness and that exposure to seemingly realistic program content is more closely related to aggressive responses than exposure to less real program formats, causality is ambiguous.

(b) although the experimental studies provide a generally consistent pattern of findings, the status of the fantasy manipulation impact in the Feshbach research and the nonsupportive effects in the Meyer research restrict the conclusiveness of the evidence.

(c) the manipulation in several experiments did not use equivalent stimuli for fantasy vs. reality violence, casting doubt on the internal validity of the designs.

(d) several studies manipulated news reality only through verbal introductory statements, rather than using externally valid techniques such as contextual placement in a TV newscast.

(e) most experiments featured extreme forms of violence such as war killing, rather than ordinary types of interpersonal physical aggression that might have different implications for arousal, imitation, or disinhibition.

(f) most experiments used either college students or very young children as subjects, limiting inferences of violence effects to these restricted populations.

(g) most experiments relied on such exotic dependent measures as shock or noxious sound delivery, rather than more naturalistic assessments of aggression.

(h) experiments typically present the stimuli on film, rather than on television monitors similar to the home TV receivers to which generalization is applied.

The present investigation seeks to overcome these deficiencies in prior research studying the reality vs. fantasy violence issue. An experimental design provides causal evidence regarding the impact of reality violence, fantasy violence,

and no violence treatments. Identical scenes of commonplace interpersonal fighting are presented in two contexts: a television newscast and a promotional highlight of a Hollywood film. Late elementary school students view the stimulus tape on television, and then report response tendencies for naturally occurring forms of aggressive behavior.

Based on the theoretical rationale and previous empirical evidence, it is hypothesized that exposure to a televised violent scene presented in the context a realistic newscast will produce more aggressive response than exposure to the same scene presented as a promotional highlight of a fictional entertainment movie. Furthermore, viewing of either realistic or fictional violence is expected to produce more aggression than exposure to a stimulus containing no violence.

There are several secondary hypotheses. It is predicted that the reality context will generate greater attention to and recall of the violent scene than the fantasy version. It is also expected that the impact of the manipulation will be greater for subjects who are high rather than low in general aggressiveness, high rather than low in experience with aggression, high rather than low in perceived reality of general television news, high rather than low in perceived reality of TV news violence, high rather than low in exposure to violence on TV news, and males rather than females.

METHOD

Three versions of a specially prepared television stimulus tape were presented to randomly assigned groups of pre-adolescent children in a school setting. The stimulus program contained an abbreviated local newscast and accompanying commercials. All content was identical, except for one critical segment which carried the experimental manipulation: the "reality news" condition featured a fight scene as a regular news story, the "fantasy entertainment" condition portrayed the same fight scene as part of a movie preview promotion, and the control condition substituted an ordinary product commercial for the violent stimuli. After viewing, Ss were administered a questionnaire measuring program reactions, aggressiveness, and a variety of control variables.

Subjects. Ss were 98 boys and girls from fifth and sixth grade classrooms of an elementary school in Lansing, Michigan. Age of the children ranged from 10 to 13 years, with a mean of 11.2 years old. Students were predominantly from working class and lower middle-class backgrounds.

Stimulus materials. All subjects viewed a five-and-one-half minute videotape presenting a portion of a news program from the local television station. The tape was specially produced by the station to simulate a typical newscast that is broadcast weeknights at 6:00 p.m. The tape began with the standard introduction to the newscast, which showed the anchorman shuffling his news sheets as the off-camera announcer described reporters and datelines. The anchorman then delivered four timeless nonviolent stories of local news averaging 45 seconds in length. This was followed by ads for a coffee product and a breakfast food. In the control condition, the news resumed immediately after the commercials were shown.

In the "fantasy" condition, the two commercials were followed by a "promo" for the late-show movie (the fictitious "Murder on the Campus"). The current late-show slide and background music introduced the message; while purported highlights of the film were displayed, the normal movie promotion announcer said: "Saturday night at 11:30 on Cinema Six the focus is on action! Rip Torn, Natalie Wood and Robert Wagner star....young Americans on a narcotics trip turn the classroom into a no-holds-barred battle...." The video track portrayed a 15-second scene of college students arguing and then wrestling and fighting in a university classroom. The promotion slide was again displayed as the announcer reminded viewers not to miss the film.

In the "realistic" condition, the newscaster returned after the two commercials with a story containing the identical fight scene used in the film promo. As the video depicted a man speaking to a class of college student for 12 seconds, the anchorman said: "Channel Six photographer Bob Ray was on hand this afternoon when young Congressional candidate Bill Tompkins addressed a political science class on the MSU campus, but he didn't plan on this development---." The 15-second segment of arguing, wrestling and fighting among the students was shown while the announcer continued: "The subject of amnesty turned the quiet classroom into a regular pier six brawl -- two unidentified students obviously had some opposite views on the issue, and made them forcibly apparent....."

All three versions then concluded with another neutral news item and closing statements.

The fight scene was an original production designed to portray a conventional form of aggressive behavior. The wrestling and fighting sequence was sufficiently exciting to typify violent stimuli seen in both entertainment and news programs, yet commonplace enough to fall within the average child's experience. Since no

novel or unique types of action were portrayed, performance disinhibition rather than observational acquisition of new behavior was expected.

Procedures. Students were stratified on sex and randomly assigned into the three treatment groups. After they assembled in morning homerooms, 98 Ss were escorted to one of three classrooms for the experiment. In each room, an experimenter introduced the videotape by telling Ss that they would first view some news stories and commercials from the local TV station. Then each group viewed one of the experimental videotapes on a large black and white television monitor.

Questionnaires were anonymously administered to the Ss immediately after the tape ended. They were told, "We want to know how you feel about TV news. We also want to know how you feel about the way people get along." Students read and marked answers to the closed-ended questions, while the experimenter consulted with individuals on problems. The nine-page questionnaires required about 15 minutes to complete.

Dependent measures. The primary dependent variable was hypothetical situational aggressiveness, measured with self-report hierarchical response scales patterned after Liefer and Roberts (1972). Eight items were constructed to elicit the Ss' readiness to aggress under various frustrating circumstances; each item outlined a hypothetical situation and offered three or four possible responses.

The response hierarchy measure seeks to assess changes in the probability of expressing aggressive behavior in everyday conflict encounters. Liefer and Roberts (1972) felt that conventional experimental studies examining effects of aggressive stimuli relied on contrived measurement situations that do not reflect non-laboratory constraints. Thus, they developed scenarios for a series of common conflict situations where the child has available a range of behavioral

responses, including physical and verbal aggression. The ordering of the hypothetical hierarchy of behaviors from the child's repertoire is sensitive to recent socialization experiences, such as exposure to violent messages. Their validation studies indicated that the instrument achieved satisfactory levels of reliability and construct validity. In a survey investigation, McLeod, Atkin and Chaffee (1972) found that an abbreviated hypothetical aggression index was moderately related to a series of self-report, peer-report, teacher-report, and mother-report measures of child aggression.

The instructions stated, "Here are some things that might happen to you sometime. Check the answer which tells what you would do if that thing happened to you." In most cases, one choice was physical aggression (either shove, fight, hit, punch, or kick), another was verbal aggression (yell, scream, call bad name), and a third was nonaggressive (let it go, ignore it, talk, back out of fight). Response categories were weighted from 0 to 4 according to manifest aggressiveness of the action; physical aggression was usually 3 or 4 and verbal aggression 1 or 2. For instance, one item asked, "Suppose you were standing in a long line at a movie and some kid cut into line in front of you. What would you do?" Response choices included: "I would shove the kid out of line," "I would yell at the kid," and "I would just let it go."

Apparently the situations were perceived to be provocative, as an average of 29% of the Ss chose the physically aggressive alternatives across the set of items.

Item analysis indicated that all eight measures were minimally acceptable. The average inter-item correlation was +.24, suggesting that the items were measuring somewhat different aspects of the same basic construct. The eight items were summed into an overall index ranging from 0 to 28, with a mean of 12.99 and a standard deviation of 6.41 across the 98 Ss.

The validity of this index is supported by relationships with three other variables measured in the questionnaire. Hypothetical aggression was correlated $+ .46$ with the general behavioral aggression index, $+ .22$ with the index of experience with aggression, and $+ .22$ with the female-male classification variable.

A secondary, less sensitive, measure of aggressive response inclinations was the general behavioral aggression index. This is a set of six statements designed to tap more basic patterns of aggressiveness; as a generalized report of aggressive predispositions, it was primarily intended as an antecedent variable for interaction analyses. However, examination of these items indicates that responses might be subject to short-term variations in level of arousal or disinhibition.

Ss were told, "Here are some things students have said about getting along with other kids. Think about how much each of these things is like you. Then put a check mark by the answer that tells how much each thing is like you."

This was followed by six statements adapted from Buss and Durkee (1957):

- "Anybody who says bad things about me is asking for a fight."
- "If some kid hits me first, I hit back."
- "When I get mad as some kid, sometimes I actually hit the kid."
- "It is not wrong for me to hit other kids who deserve it."
- "Kids who keep bothering me are asking for a punch in the nose."
- "There is no good reason for ever hitting anyone," (R)

There were three response categories (scored 0-1-2) in each case: "Yes, that's a lot like me", "yes, that's a little like me", and "no, that's not like me." On the average, 22% of the Ss chose the "a lot" category, 47% selected "a little" and 31% picked "not like me." The six items had an average inter-item correlation of $+ .20$; there was an overall mean of 5.50 and a standard deviation of 2.35.

Control measures. The questionnaire contained single or multiple questions measuring a number of antecedent and intervening variables. The general aggressiveness variable has been described above. Antecedent aggression experience was tapped with three items asking how often the child had "seen kids fighting" in the neighborhood and in the school and personally "been in fights." Measures were also obtained for prior levels of perceived reality of TV news and news violence, and of exposure to TV news and news violence; the key items are presented in Table 3.

For the two groups who viewed the violent scene, two supplemental pages of the questionnaire assessed responses to this stimulus. These dealt with recall of the fight, attention to get fight, liking for fight, and perceived reality of the fight. Items are described in the results section and Table 1.

FINDINGS

Main effects. Both the fantasy and reality violence experimental groups display substantially greater hypothetical situational aggressiveness than the control group, as shown in Table 1. The overall one-way analysis of variance test is highly significant ($F=5.48$, $df=2$, $p<.01$); t-tests also yield significant differences between the control vs. fantasy conditions ($p<.05$) and the control vs. reality conditions ($p<.001$). Furthermore, aggressive responses in the news violence condition are significantly higher than in the entertainment violence condition ($p<.05$).

Scoring the television violence manipulation as an ordinal variable (control=0, fantasy=1, and reality=2), the hypothetical aggression index correlates $r=+.32$ with experimental treatment.

Although the general behavioral aggressiveness index is primarily conceived as a stable child characteristic to be used in interaction analyses, it may also be considered as a supplementary dependent variable of secondary importance. The pattern of responses on this index is similar to the results for the hypothetical aggression hierarchy, although the differences are not as strong. Table 1 shows that both the fantasy and reality violence groups score higher than the control group on this variable; the overall analysis of variance test is significant ($F=3.76$, $df=2$, $p<.05$). There is a significant difference between the reality vs. control conditions ($p<.01$), while the t-test comparisons between fantasy vs. control ($p<.10$) and reality vs. fantasy ($p<.10$) are in the predicted direction but not statistically significant. When the violence manipulation is scored as an ordinal predictor variable, there is a correlation of $r=+.27$ with general behavioral aggressiveness.

The results for the viewing response variables indicate a greater effectiveness for the reality than the fantasy stimulus. There is greater recall of the fighting scene when it is presented as a news story rather than a movie promo. When asked "on the TV program we showed you today, do you remember seeing a fight between two men?", all 33 Ss in the news condition said "yes" compared to 25 Ss in the movie condition.

All experimental Ss who recalled the fight were asked to rate their level of attentiveness, liking, and perceived reality regarding that segment of the broadcast. Table 1 shows that 70% of those in the reality violence condition pay "a lot" of attention, while only 32% of the fantasy violence give such close attention. The mean difference between the two groups is significant ($t=3.70$, $p<.01$). There is slightly greater liking among Ss exposed to the news version. Those viewing the news treatment are more likely than the those seeing the movie

promo to perceive the fight scene as realistic, with 46% vs. 20% rating the action as "very real." The mean difference is marginally significant ($t=1.77$, $p<.05$). Considering the fantasy vs. reality treatment as a dummy ordinal variable, the strength of association with the viewing response variables ranges from $r=+.07$ for liking to $r=+.21$ for perceived reality to $r=+.42$ for attentiveness.

Interaction effects. The impact of the violence was assessed in conjunction with six antecedent variables pertaining to the background of the Ss. Main effects data presented in Table 2 indicate that more hypothetical aggression is displayed by boys ($r=+.24$), by those who are characteristically aggressive, ($r=+.46$) and by those with greater experience observing and getting involved in fights ($r=+.22$). There are negligible correlations between hypothetical aggression and perceiving general TV news as realistic ($r=+.01$), perceiving violence in TV news as realistic ($r=+.02$), and amount of home exposure to violent TV news ($r=-.05$).

For the three antecedent variables that might conceivably interact with the overall experimental treatment, no significant interactions are found. When sex, aggressiveness, and experience are dichotomized in Table 2, the reality violence treatment has more impact on hypothetical aggression at each level than does the fantasy violence manipulation; fantasy Ss show more aggression than control Ss at high and low levels of the antecedent attributes.

The three variables involving prior response to television news are of interest only in analyzing the effects of the news version of the violent scene. Ss in this treatment group who perceive TV news and news violence to be highly realistic are more aggressive than those who feel news programming is less real. In each case, the control group Ss who score higher on the perceived reality

dimensions are less likely to give aggressive answers than those who don't feel TV news is so real. Aggressiveness among Ss in the reality condition differs little according to their past level of exposure to news violence on television; however, there is a substantial control group difference in the negative direction.

These findings can be more clearly described with correlational statistics. The control vs. reality violence treatment was converted into a dummy variable and related to hypothetical aggression at each level of the three viewing response variables. For Ss who believe TV news is high in realism, treatment correlated $r=+.52$ with aggression; for those who perceive news to be less realistic, the correlation is a much lower $r=+.24$. A weaker differential association is obtained between high vs. low perceived reality of TV news violence, with correlations of $r=+.46$ vs. $r=+.33$. There is a treatment-aggression correlation of $r=+.48$ among heavy viewers of news violence, compared to a $r=+.20$ association for lighter viewers. These interactions do not quite reach significance at the .05 level, however.

Intervening variables. Data presented earlier indicate that the reality news version of the fight scene produces greater levels of attention, perceived realism, and liking than did the fantasy version. Some of the influences of the experimental treatment may be interpreted as working through these three intervening variables. Correlations were computed between each viewing response variable and the hypothetical aggression index. Perceived reality of the action is most closely associated with aggression ($r=+.28$), followed by liking for the fight ($r=+.24$) and attention to the message ($r=+.16$). When second-order partial correlations are computed for each relationship to control for the influence of the other two response variables, the attention association with

aggression disappears while the partials for perceived reality ($r=+.27$) and liking ($r=+.23$) remain as strong. Attention is apparently a consequence of liking and perceived reality, making no independent contribution to heightened aggressiveness after viewing.

Within the news experimental group, the mean differences between Ss high and low on perceived reality and on liking can be examined to determine the intervening conditions facilitating maximum impact. Those 15 Ss who feel that the violence is highly realistic score 17.20 on hypothetical aggression, compared to 13.61 among the 18 Ss who rate the action as moderate or low in realism. The 11 Ss who say they like the fight scene score 17.46 on the aggression index, while the 22 Ss expressing little or no liking average 14.13 on the dependent variable. Both differences are significant at the .05 level.

Home viewing and perceived reality. The sample provided reports on their levels of naturalistic exposure to TV news violence and perceived reality of general and violent news stories. The responses across all 98 Ss in Table 3 provide useful descriptive data.

Two measures of exposure to "stories about someone hurting another person" indicate moderate frequency of viewing. One-seventh of the Ss have seen such stories "a lot" on local and national news broadcasts, and more than half say they have watched "sometimes." There is little difference in exposure to national vs. local news items of this nature.

Ss perceive that television news stories are generally realistic. Across three measures, about half agree strongly that news items reflect real life. Most of the remaining Ss express mild agreement, while a few disagree with statements that news is realistic.

Two questionnaire items dealt specifically with violent news. Almost half of the Ss perceive that stories showing "people fighting" are quite real, and two-fifths feel that stories depicting "people hurting others" are very realistic. In each case, about two-fifths of the Ss express mild agreement that violent stories in newscasts reflect reality. These reality perceptions are slightly lower than for general news items.

DISCUSSION

The major experimental finding shows a violent incident presented as realistic news has greater impact on aggressiveness than the same scene portrayed as fantasy entertainment. Both types of TV violence increase aggression above the baseline of the non-exposed control group. This basic effect occurs on both the situational aggressiveness instrument and the supplemental behavioral aggression inventory.

Which antecedent conditions maximize news violence effects? Compared to the control group, those exposed to the violent news story exhibit more situational aggressiveness if they perceive TV news to be highly realistic and watch violent TV news stories at home. There is relatively less impact on those who perceive news as less real and seldom view violent news stories. Sex, experience with aggression, and generalized aggressive patterns of behavior do not interact with the TV violence manipulation.

A preliminary attempt to trace the process through which violence realism operates yields a tentative path of influence. In the experimental setting, news violence stimulates much greater attention and recall than entertainment violence. News violence is perceived as substantially more realistic, and there is slightly more liking for the news version of the violent scene. In

turn, the intervening perceived reality and liking variables are both independently related to aggression; regardless of treatment, those who like the fight or think it is real tend to give more aggressive responses. Combining these two sets of findings, violence presented as news leads to more perceived realism, and this perception contributes to heightened aggressiveness. However, this particular causal linkage explains less than half of the impact of the news vs. entertainment manipulation; other intervening factors should be isolated and explored.

The pattern of findings supports the basic thrust of the recent research literature on reality vs. fantasy violence, and provides significant new contributions on several fronts. The demonstration of a causal relation in the experiment allows for more confident inferences to be drawn from correlational field studies. The relative ordering of fictional vs. non-violent treatment impact contradicts the results of the well-known Feshbach experiment, further casting doubt on his revised catharsis propositions. Methodological improvements over previous experimental investigations allow for more definitive conclusions regarding the impact of realistic and fantasy violence, since the treatment stimuli were equivalent on extraneous attributes, appropriate contextual manipulation was employed, naturalistic measures of aggression were obtained, a pre-adolescent sample was studied, and tentative indication of the role of antecedent and intervening variables was derived.

The primary methodological weakness in the experiment was the measurement of generalized prior level of aggressiveness. The instrument turned out to be sensitive to the experimental manipulation, confounding the usefulness of this variable for interaction analyses. Alternative approaches might involve measurement before exposure (despite risks of sensitization) or use of peer ratings of aggressive behavior (if feasible).

One of the key practical implications of this study pertains to the impact of news violence on television. Most public and scientific concern has focused on the effects of entertainment violence; this investigation provides further impetus for closer attention to news presentations as a source of aggression learning. Atkin and Gantz (1975) have shown that children are moderately exposed to adult news programs, and the descriptive data from this questionnaire indicate that more than two-thirds of the subjects had seen violent stories in local and national news. Indeed, Bandura (1973) has recently pointed to television news coverage as a major influence on aggressive and criminal behavior in the general public.

The use of a newscast as the vehicle for realistic violence limits extrapolation of these findings to another pragmatic issue, the influence of entertainment violence varying in perceived actuality and similarity. Future investigations should manipulate contextual elements of realism within various types of dramatic content to specify the role of time period (westerns vs. modern day programs), setting (familiar vs. exotic), characters (believable vs. caricatures), type of violence (weapons vs. physical), and type of consequences (gory vs. sanitized). Evidence demonstrating that certain aspects of realism facilitate learning of anti-social behavior would be useful inputs in policy-making decisions.

Subsequent theoretical research should attempt to determine the processes through which perceived reality contributes to heightened aggressive responses. The most likely explanation for the present findings is that exposure to the realistic violence served to disinhibit internal restraints of aggressive inclinations; since news viewers perceived that the fighting had actually taken place, expression of overt aggression might have seemed more normative and acceptable.

Future analyses can identify the relative explanatory power of arousal, imitation, internal disinhibition, and external inhibition mechanisms.

FOOTNOTES

¹For the most recent review of this evidence, see G. Comstock, Television and Human Behavior: The Key Studies (Santa Monica: The Rand Corporation, 1975). An earlier review of studies was prepared for the Surgeon General's Scientific Advisory Committee on Television and Social Behavior: C. Atkin, J. Murray and O. Nayman, Television and social behavior. An annotated bibliography (Washington: Government Printing Office, 1971).

²Articles by a number of researchers have proposed that realistic violence is more influential than fantasy violence. See in particular Bandura (1973), Berkowitz (1962), Feshbach (1972), and Thomas and Tell (1974).

Table 1

EFFECTS OF EXPERIMENTAL TREATMENT ON VIEWING RESPONSES AND AGGRESSION HIERARCHY

Dependent variable	Experimental treatment:		
	Reality Violence (N=33)	Fantasy Violence (N=33)*	No Violence (N=32)
Hypothetical aggression hierarchy.....	15.24	13.39	10.25
General aggressiveness.....	10.69	11.52	12.24
Attention to violent scene.....	2.64	2.08	n.a.
"How much attention did you pay to the fight?".....			
A LOT	70%	32%	
SOME	24	44	
NOT MUCH	6	24	
Liking for violent scene.....	2.12	2.04	n.a.
"How much did you like to see the men fighting?".....			
A LOT	33%	24%	
A LITTLE	46	56	
DIDN'T	21	20	
Perceived reality of violent scene....	2.18	1.80	n.a.
"How real did the fight look to you?".....			
VERY	46%	20%	
PRETTY	27	40	
NOT VERY	27	40	

*On the three viewing response measures, data were not obtained from 8 Ss in the fantasy condition who did not remember seeing the fight scene; statistics are computed without these Ss.

Table 2

INTERACTION EFFECTS OF EXPERIMENTAL TREATMENT AND ANTECEDENT SUBJECT ATTRIBUTES

	<u>Reality Violence</u>	<u>Fantasy Violence</u>	<u>No Violence</u>	<u>Overall</u>
Males	16.93	14.42	12.79	14.78 (N=47)
Females	13.83	12.81	8.28	11.70 (N=51)
High general aggressiveness	16.57	17.31	14.30	16.28 (N=46)
Low general aggressiveness	12.20	10.85	8.41	10.08 (N=52)
High aggression experience	17.73	14.69	12.33	14.82 (N=39)
Low aggression experience	14.00	12.18	9.00	11.78 (N=59)
High PR general TV news	16.61	14.15	9.69	13.57 (N=47)
Low PR general TV news	13.60	12.90	10.81	12.45 (N=51)
High PR TV news violence	15.78	15.29	9.47	13.62 (N=47)
Low PR TV news violence	14.60	12.00	10.94	12.41 (N=51)
High news violence viewing	15.33	13.74	9.05	12.42 (N=60)
Low news violence viewing	15.17	12.60	12.90	13.89 (N=38)

Table 3

VIEWING AND PERCEIVED REALITY OF TELEVISION NEWS AND NEWS VIOLENCE AT HOME

"Sometimes there are TV news stories about somebody hurting another person. How often have you seen such stories on the local news?"

I've seen such stories a lot.....14%
 I've seen such stories sometimes.....59
 I've almost never seen such stories.....27

"How much have you seen such stories in the national news?"

I've seen such stories a lot.....16%
 I've seen such stories sometimes.....51
 I've almost never seen such stories.....33

"Stories on TV news are just like real life."

Yes, I agree with that a lot.....53%
 Yes, I agree with that a little.....43
 No, I don't agree with that..... 4

"Stories on TV news tell about life the way it really is."

Yes, I agree with that a lot.....40%
 Yes, I agree with that a little.....45
 No, I don't agree with that.....15

"The same things that happen to people in TV news happen to people in real life."

Yes, I agree with that a lot.....55%
 Yes, I agree with that a little.....38
 No, I don't agree with that..... 7

"Some TV news stories show people fighting. These stories are just like fights people have in real life."

Yes, I agree with that a lot.....45%
 Yes, I agree with that a little.....39
 No, I don't agree with that.....16

"Some TV news stories show people hurting other people. These stories are just like real life."

Yes, I agree with that a lot.....42%
 Yes, I agree with that a little.....42
 No, I don't agree with that.....16

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